

Remarks

Claims 7, 12, 14, 15, 17-19, 22-25, 27-30, 33, 34, 36, 38, 40, 42-49, and 50 are pending.

Of the above claims, claims 14, 17-19, 22-25, 28, 29, 33, 34, 36, 38, and 43 were noted as allowable, and claims 40, 42 and 45-49 were allowed. Claim 50 is new, having been added with in the previous response. Claims 7, 12, 15, 27, 30, and 44 stand rejected. For the reasons set forth below, claims 7, 12, 15, 27, 30, and 44 are believed patentable. New claim 50 is identical in scope to former claim 16 (noted as allowable) and thus likewise believed allowable. Reexamination and reconsideration in view of the remarks of the previous response and the supplemental remarks herein is requested.

Applicants and the undersigned thank the examiner for the personal interview of 2/27/03. In the interview, the arguments set forth in Applicants response mailed February 6, 2003 was discussed. In particular, the disclosure of the CL reference (UK Patent 871,605) was discussed. The examiner asked that Applicants file a supplemental response to that mailed February 6, 2003. Accordingly, remarks which are supplemental to those provided in the response mailed February 6, 2003 are provided below.

35 U.S.C. 102(b) Rejection

Claim 15 stands rejected under 35 U.S.C. 102(b) as being anticipated by Catylators Limited (CL). Applicants respectfully traverse.

Claim 15 includes the following two elements:

- (1) "a gas-permeable catalyst container . . . comprising flame arresting material having pores . . ." and
- (2) a "gas-permeable hydrophobic solid film encasing said container."

With reference to Figure 1 of CL, CL discloses a catalyst 1 surrounded by a layer 2 of hygroscopic and anti-corrosive compound (CL, page 1, lines 42-43), and an encapsulation 3 (page 1, line 49). The layer 2 surrounding the catalyst is hygroscopic (ability to absorb moisture) and can comprise lead dioxide with alumina 7 (page 1, lines 45-46). The encapsulation 3 is made of porous glass or ceramic material that will allow the entry of hydrogen and oxygen.

In the outstanding office action it is alleged that the outer layer 3 in Figure 1 of CL satisfies element (2) above of claim 15. In fact, item 3 of CL is a glass or ceramic encapsulation (container) (page 1, lines 49-60 and Figure 1). CL does not teach any hydrophobic solid film encasing the encapsulation 3.

As an initial matter, it is believed that office action misinterprets the CL reference. The description of a prior art reference, in order to anticipate, must describe the invention as claimed adequately to one of ordinary skill to enable such person to comprehend the invention and make it. A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. MPEP 2131. In the present case, however, the rejection goes beyond what is reasonably suggested in the CL reference, and in fact skews the disclosure of the reference to that which is not supported by the CL reference.

First, in view of the embodiment of Figure 1 in CL on which the examiner relied, item 3 of CL was alleged to be a hydrophobic solid film, and item 2 of CL a container. There is no support whatsoever in CL for such an interpretation, and in fact, CL teaches the contrary. Item 3 in CL is the only item that could be the container, item 2 is a material held within the container 3, and there is no solid film encasing the container 3.

Item 2 in CL is a layer of hygroscopic and anti-corrosive compound. Far from being a capsule or container as the examiner alleges, item 2 of CL clearly is an

intermediate layer of material positioned between the catalyst 1 and the capsule 3 through which the gas to be catalyzed must pass for preventing corrosion and to inhibit poisoning of the catalyst 1. See CL, page 2, lines 61-64. This is consistent with all embodiments of CL. For example, in the embodiment of Figure 4 of CL, the encapsulement 3 is divided into a bottom half that is porous and a top half (lid 9) that is nonporous. CL, page 1, lines 85 et al. Here the lead dioxide with alumina material 7, (the material of reference number 2 in the embodiment of Figure 1), is positioned in the bottom half of the device so that the gas to be catalyzed must pass through the material 7 before reaching the catalyst, and is clearly not a container. Only item 3 in the embodiment of Figure 4 could be a container. Similarly, in the embodiment of Figure 3, the corrosion and poison inhibiting material lead dioxide mixed with alumina 7 (item 2 in Figure 1) is interspersed with the catalyst pellets 6 and is clearly not a container. Clearly, in Figures 3, 4, and 5 of CL, only the encapsulement 3, or encapsulement half 3 and encapsulement half 9, are encapsulements capable of acting as a container. There is nothing in CL to provide any basis for viewing items 3 and 2 in Figure 1 of CL any differently than the other embodiments.

In fact, no where in CL is item 2, or the material it is made of, lead dioxide and alumina 7, referred to as a container, or is described as functioning as a container. Only item 3, in all embodiments of CL, is referred to as an encapsulement which appears to function as a container. Thus, item 2 of CL is not a container, item 3 is the only item that could be considered a container, and thus the rationale for the rejection of claim 15 set forth in the office action is incorrect on this basis alone. As noted above, a disclosure must reasonably suggested to one having ordinary skill in the art all the elements of the claim. Here, CL does not disclose that item 2 is a container in any manner whatsoever.

Furthermore, claim 15 requires that the container comprise a flame arresting material and have pores of suitable size to allow gas to pass there through and

which acts as a barrier to a flame. Nowhere in CL is it taught or suggested that item 2 has such properties.

Another incorrect assertion in the rejection is that the item 3 of CL, which is in fact the encapsulement and acts as the container, is a hydrophobic film. It clearly is not. Glass, a material specified for the encapsulement 3, is not hydrophobic. The definition of hydrophobic is water repellent; incapable of being wet by water.

Chemistry of the Silicones, E. Rochow, John Wiley & Sons, Inc. 1946, p. 116 (copy enclosed) This is contrasted with hydrophilic which means capable of being wet by water, not water repellent. Id.

That glass is not hydrophobic apparently explains the contact angle of water on glass. Enclosed herewith is a print from the following web site www.diamonfusion.com/us/news/printable/ppr020502.html entitled “Innovative Hydrophobic Technology That Provides a True Self-cleaning Glass Surface and a More Bond-friendly Surface to Pressure-sensitive Adhesives” which notes that glass is hydrophilic. (See first paragraph below the figure titled “Contact Angle.”)

That glass is not hydrophobic also explains the meniscus created by water in a glass capillary. Since glass is capable of being wetted by water (hydrophilic), the water within the glass capillary moves up the side of the glass. If the glass were hydrophobic, not wetted by water, than it would behave more like mercury in a glass capillary which has an oppositely shaped meniscus. An illustration of this effect is shown in the article titled “Meniscus - An Example of Surface Tension” found at the following web site,

http://www.wl.k12.in.us/depts/science/earth_science/frameworks/ch11/meniscus.htm
a copy of which is enclosed.

Moreover, nowhere in CL is the item 3 referred to as a film or any thing else that could remotely be considered a film. CL does not reasonably suggest to one

having ordinary skill in the art that item 3 is a hydrophobic film, let alone one encasing the container. This teaching comes only from applicants' patent application. Accordingly, claim 15 is believed allowable.

35 U.S.C. 103 Rejection

Claims 7, 12, 27, 30, and 44 stand rejected under 35 U.S.C. 103 as being unpatentable over German 2904842 in view of CL. Applicants respectfully traverse.

As discussed above in relation to the 35 U.S.C. 102(b) rejection, CL does not teach at least one of the following elements:

- (1) "a gas-permeable catalyst container . . . comprising flame arresting material" and
- (2) a "gas-permeable hydrophobic solid film encasing said container."

Claims 7, 12, 27, 30, and 44 contain similar claim language as claim 15, and CL does not teach all elements of claim 15. Accordingly, the combination of German 2904842 in and CL does not disclose all elements as claimed, and thus the claims 7, 12, 27, 30, and 44 are believed patentable.

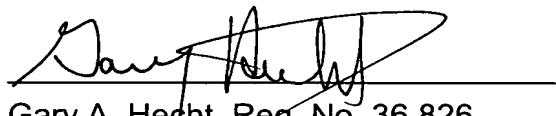
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All claims are now believed allowable. Allowance of claims 7, 12, 14, 15, 17-19, 22-25, 27-30, 33, 34, 36, 38, 40, 42-49, and 50 is requested.

Respectfully submitted,



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